

CLAIMS

1. An electrostatic dissipating laminate structure comprising:
 - (a) a cellulose-based substrate;
 - 5 (b) a conductance-modifying component selected from the group consisting of an inherently conductive polymer, a conductive nanophase material and mixtures thereof; and
 - (c) a thermosetting polymer resin.
2. The laminate structure of claim 1 wherein said thermosetting polymer resin is selected
10 from the group consisting of unsaturated polyesters, polyurethanes, polyureas, epoxies, bismaleimides and formaldehyde-type thermosetting resin compositions.
3. The laminate structure of claim 1 wherein said cellulose-based substrate is pretreated with a conductance modifying component selected from the group consisting of an inherently
15 conductive polymer and a conductive nanophase material.
4. The laminate structure of claim 3 wherein said cellulose-based substrate is pretreated with a colloidal dispersion of an inherently conductive polymer in an aqueous medium at a concentration ranging from about 0.1% to about 20.0% by weight.
5. The laminate structure of claim 3 wherein said cellulose-based substrate is pretreated
20 with a colloidal dispersion of a conductive nanophase material in an aqueous medium at concentrations ranging from about 1.0% to about 25.0% by weight.
6. The laminate structure of claim 1 further comprising a transparent overlay sheet, a decorative under sheet or both.
7. The laminate structure of claim 6 further comprising at least one internal layer
25 comprising a cellulose-based sheet saturated with a thermosetting polymer resin.
8. The laminate structure of claim 7 further comprising at least one layer comprising a heavy paper saturated with a phenol formaldehyde resin.
9. The laminate structure of claim 1 further comprising a conductive scrim layer.
10. The laminate structure of claim 9 wherein said conductive scrim layer comprises a
30 conductance-modifying component selected from the group consisting of an inherently

conductive polymer, a conductive nanophase material and a combination of an inherently conductive polymer and a conductive nanophase material.

11. The laminate structure of claim 9 wherein said conductive scrim layer comprises a conductive non-woven material incorporated into said laminate beneath a cellulose-based sheet
5 impregnated with a dissipative polymer composition.

12. The laminate structure of claim 2 wherein said thermosetting polymer resin comprises melamine formaldehyde.

13. The laminate structure of claim 1 wherein said conductance-modifying component comprises an inherently conductive polymer.

10 14. The laminate structure of claim 13 wherein said inherently conductive polymer comprises polyethylene dioxythiophene polystyrene sulfonate.

15. The laminate structure of claim 13 wherein said inherently conductive polymer comprises polyaniline.

16. The laminate structure of claim 13 wherein said dissipative polymer composition
15 comprises an amount of said inherently conductive polymer between less than 1.0% and approximately 15% of the weight of said thermosetting polymer resin present in said structure.

17. The laminate structure of claim 1 wherein said conductance-modifying component comprises at least one conductive nanophase material.

18. The laminate structure of claim 17 wherein said dissipative polymer composition
20 comprises nanophase materials in an amount between less than 1% and approximately 25% by weight of said thermosetting polymer resin present in said composition.

19. The laminate structure of claim 17 wherein said conductive nanophase materials comprise antimony tin oxide.

20. An improved method of forming an electrostatic dissipating hard laminate structure
25 wherein a cellulose-based structure is impregnated with a thermosetting polymer resin, said improvement comprising imparting electrostatic dissipating properties to said laminate structure wherein the improvement comprises adding a conductance modifying component selected from the group consisting of an inherently conductive polymer, a conductive nanophase material and mixtures thereof to said laminate structure by (i) impregnating said polymer resin with said
30 conductance modifying component; or (ii) forming an aqueous dispersion of said conductance modifying component and applying said aqueous dispersion to said hard laminate structure.

21. An improved method as defined in Claim 20 wherein said application of said aqueous dispersion to said hard laminate structure comprises aerosol spraying.
22. An improved method as defined in Claim 20 wherein said application of said aqueous dispersion to said hard laminate structure comprises applying said aqueous dispersion to a transfer coating and then applying said transfer coating to said hard laminate structure.